

Table of Contents

Executive Summary.....	v
Chapter 1. Introduction	1-1
Defining Terms	1-1
Electronic Data Interchange	1-1
Electronic Commerce	1-2
The Information Age Is Upon Us	1-3
The Need for Standard Electronic Commerce in Government	1-4
National Performance Review	1-5
President's Memorandum	1-6
Meeting the President's Directive	1-7
The Business Case - The Necessary Paradigm	1-7
The Integrated Organization	1-8
A Process Model.....	1-9
Imperatives.....	1-10
Key Recommendations	1-11
Functional Requirements	1-12
Technical Infrastructure	1-13
Conclusion	1-15
Report Structure	1-15
Chapter 2. The Business Case for Electronic Commerce.....	2-1
Framework for Functional Requirements	2-1
Economic Considerations	2-3
Potential Benefits of EC	2-5
Cost-Benefit Analysis	2-5
Procurement	2
Why Implement Electronic Commerce?	2-8
Procurement Functional Requirements	2-15
How to Evaluate Progress.....	2-30
Financial	2-31
Introduction	2-31

Payment Processing	2-33
Payment and Collection Methods	2-40
Recommendations	2-45

Chapter 3. Technology and Technical Support	3-1
Introduction	3-1
Trading Partner Registration	3-1
Information Requirements	3-4
Identification Numbers	3-6
Administration of the Registration Process	3-13
Automation of Representations, Certifications, and Trading Partner Agreement	3-14
Registration Steps	3-15
Marketing Plan for EC Trading Partner Registration	3-18
Required Changes to Government Regulations	3-19
Value-Added Networks in the Federal Electronic Commerce System	3-21
Value-Added Networks	3-21
Federal Government Use of VANs	3-27
Industry Assessment of Government-wide EC System	3-35
Recommendations	3-36
Implementation Conventions	3-38
Electronic Data Interchange	3-38
The EDI Standards	3-39
Standards for EDI Implementation	3-42
Configuration Management	3-54
Remaining Issues	3-59
Work Plan	3-60
Chapter 4. Technical Architecture	4-1
The Technical Foundation	4-1
Agency Actions.....	4-2
Government-wide Actions	4-3
Architectural Principles	4-5
Open Systems Environment	4-6
Modular Components.....	4-7
Best Commercial Practices	4-7
Single Face to Industry	4-8
Flexible, Scalable, and Extensible Systems	4-8
Vendor Independence	4-9
Operational Management and Control	4-9

Security Based on Need.....	4-9
Standard Data Elements	4-9
Single Data Entry	4-10
Mandatory Testing	4-10
Cost-Effective Transitions	4-10
The Target Architecture	4-10
Objectives	4-10
Agency Capabilities Required	4-11
Functional Concepts of an EC Architecture	4-13
Today's EC Architectural Environment	4-14
Virtual Network	4-15
Target Architecture	4-16
Component Functionality	4-19
Security	4-22
Data Bases.....	4-26
Recommendations	4-27
Summary.....	4-29

Chapter 5. Electronic Commerce Implementation Strategy..... 5-1

Key Implementation Factors	5-2
The “Plan/Act, Plan/Act” Model	5-2
Implementing the Architecture	5-4
Establishment of Electronic Commerce for Acquisition Program Management Office	5-5
Agency Conversion to Electronic Commerce	5-5
Development of Infrastructure	5-9
Outreach to Vendors	5-11
Long-Term Implementation	5-12
Next Steps	5-13
Agency Implementation Plans	5-13
Update and Finalize Federal Electronic Commerce Report and Architecture Design	5-14
Implementation of the Government-wide EC System	5-14
Preparation of Internal Procurement and Financial Systems	5-14
Implementation Conventions	5-15
Other Implementation Actions	5-15

Appendix A. Trading Partner Registration Information

Appendix B. Potential Users of Registration Information

Appendix C. Possible Sources of Registration Information

Appendix D. Comparison of Numbering Systems

**Appendix E. Federal Government Electronic Data Interchange
Trading Partner Agreement**

Appendix F. Technical Requirements for EDI VAN Providers

Appendix G. Certification Agreement for EDI VAN Services

Appendix H. Information Technology Standards

Appendix I. Architecture Concepts and Alternatives

Appendix J. Components of EC Architecture

Appendix K. Data Base Services

Appendix L. Design and Implementation Issues

Appendix M. EC Security Management

Glossary

Acronyms